Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (original) In an externally modulated wavelength division multiplexed (WDM) optical transmitter comprising a continuous wave (CW) laser, a semiconductor optical amplifier (SOA) positioned after the laser and an external modulator positioned after the SOA, a method of controlling start-up of the transmitter comprising the steps:

maintaining the laser in a disabled (off) mode;

operating the SOA so as to generate a broad spectrum of amplified spontaneous emission (ASE) light output;

biasing the modulator substantially to a modulator minimum transmission state;

turning off the SOA; and

turning on the laser.

Claim 2 (original) A method according to claim 1 wherein the step of biasing the modulator substantially to a modulator minimum transmission state comprises:

sweeping the modulator over a range of bias voltages and monitoring the modulator output power to determine the bias voltage vs. transmission characteristic of the modulator; and

biasing the modulator to a minimum transmission state as determined by the preceding step.

Claim 3 (original) A method according to claim 2 wherein monitoring of the modulator

output power is carried out by a transmitter power monitor photodiode positioned after the external modulator.

Claim 4 (original) A method according to claim 1 wherein the SOA is integrated onto the same substrate as the CW laser.

Claim 5 (original) A method according to claim 1 wherein the external modulator is a Mach-Zehnder interferometer modulator.

Claim 6 (original) A method according to claim 5 wherein the Mach-Zehnder interferometer modulator is formed from lithium niobate (LiNbO3) crystal.

Claim 7 (original) A method according to claim 1 wherein the continuous wave (CW) laser is a tunable laser.

Claim 8 (original) In an externally modulated wavelength division multiplexed (WDM) optical transmitter comprising a continuous wave (CW) laser, a semiconductor optical amplifier (SOA) positioned after the laser and an external modulator positioned after the SOA, a method of tuning the transmitter to a desired wavelength comprising the steps:

disabling data modulation;

turning down the SOA to a minimum power so as to still maintain a wavelength lock;

biasing the modulator substantially to a modulator minimum transmission state;

turning off the SOA;

setting the laser temperature and SOA temperature to values corresponding to the desired wavelength; and

adjusting the laser bias current to a value corresponding to the desired wavelength.

Claim 9 (original) A method according to claim 8 wherein the step of biasing the modulator substantially to a modulator minimum transmission state comprises:

sweeping the modulator over a range of bias voltages and monitoring the modulator output power to determine the bias voltage vs. transmission characteristic of the modulator; and

biasing the modulator to a minimum transmission state as determined by the preceding step.

Claim 10 (original) A method according to claim 9 wherein monitoring of the modulator output power is carried out by a transmitter power monitor photodiode positioned after the external modulator.

Claim 11 (original) A method according to claim 8 wherein the SOA is integrated onto the same substrate as the CW laser.

Claim 12 (original) A method according to claim 8 wherein the external modulator is a Mach-Zehnder interferometer modulator.

Claim 13 (original) A method according to claim 8 wherein the Mach-Zehnder interferometer modulator is formed from lithium niobate (LiNbO3) crystal.

Claim 14 (original) A method according to claim 8 wherein the continuous wave (CW) laser is a tunable laser.

Claim 15 (original) A computer readable storage medium having computer readable program code means embodied therein for controlling the start-up of an externally modulated WDM optical transmitter, said optical transmitter comprising a CW laser, a semiconductor optical amplifier (SOA) positioned after the CW laser, an external modulator positioned after the SOA, the computer readable program code means comprising:

computer readable program code means for applying bias to the SOA while maintaining

the laser in a disabled (off) mode so as to generate a broad spectrum of amplified spontaneous emission (ASE) light output;

computer readable program code means for biasing the modulator substantially to a modulator minimum transmission state;

computer readable program code means for turning off the SOA bias; and

computer readable program code means for turning on the laser.

Claim 16 (original) A computer readable storage medium according to claim 15 further comprising:

computer readable program code means for sweeping the modulator over a range of bias voltages;

computer readable program code means for monitoring the modulator output power to determine the bias voltage vs. transmission characteristic of the modulator; and

computer readable program code means for biasing the modulator to a minimum transmission state as determined by the preceding step.

Claim 17 (original) A computer readable storage medium having computer readable program code means embodied therein for tuning an externally modulated WDM optical transmitter to a desired wavelength, said optical transmitter comprising a CW laser, a semiconductor optical amplifier (SOA) positioned after the CW laser, an external modulator positioned after the SOA, the computer readable program code means comprising:

computer readable program code means for disabling data modulation;

computer readable program code means for turning down the SOA to a minimum power so as to still maintain a wavelength lock;

computer readable program code means for biasing the modulator substantially to a modulator minimum transmission state;

computer readable program code means for turning off the SOA;

computer readable program code means for setting the laser temperature and SOA temperature to values corresponding to the desired wavelength; and

computer readable program code means for adjusting the laser bias current to a value corresponding to the desired wavelength.

Claim 18 (original) In an externally modulated wavelength division multiplexed (WDM) optical transmitter comprising a continuous wave (CW) laser, a semiconductor optical amplifier (SOA) positioned after the laser and an external modulator positioned after the SOA, a method of tuning the transmitter to a desired wavelength comprising the steps:

turning the laser off;

setting the laser temperature and SOA temperature to values corresponding to the desired wavelength;

operating the SOA so as to generate a broad spectrum of amplified spontaneous emission (ASE) light output;

biasing the modulator substantially to a modulator minimum transmission state;

turning off the SOA; and

turning on the laser.

Claim 19 (original) An externally modulated wavelength division multiplexed (WDM) optical transmitter comprising a continuous wave (CW) laser, a semiconductor optical amplifier (SOA)

positioned after the laser and an external modulator positioned after the SOA, said transmitter being operable under computer readable program code means for controlling start-up of the transmitter, the computer readable program code means comprising:

computer readable program code means for applying bias to the SOA while maintaining the laser in a disabled (off) mode so as to generate a broad spectrum of amplified spontaneous emission (ASE) light output;

computer readable program code means for biasing the modulator substantially to a modulator minimum transmission state;

computer readable program code means for turning off the SOA bias; and

computer readable program code means for turning on the laser.

Claim 20 (currently amended) An externally modulated wavelength division multiplexed (WDM) optical transmitter comprising a continuous wave (CW) laser, a semiconductor optical amplifier (SOA) positioned after the laser and an external modulator positioned after the SOA, the SOA gain being adjustable so as to provide control of the optical output power of the transmitter, wherein amplified spontaneous emission (ASE) from the SOA is used to characterize bias levels of the external modulator.

Claim 21 (previously presented) An externally modulated wavelength division multiplexed (WDM) optical transmitter comprising a continuous wave (CW) laser, a semiconductor optical amplifier (SOA) positioned after the laser and an external modulator positioned after the SOA, the SOA gain being adjustable so as to provide control of the optical output power of the transmitter,

wherein a bias setting of the external modulator is capable of being varied so that the external modulator can operate in a manner which includes, at least, a normal transmission state, which is used during normal signal transmission, and a minimum transmission state, which aids

in optical power attenuation of a laser transmission wavelength to reduce wavelength channel interference during periods of laser instability.

Claim 22 (previously presented) An externally modulated wavelength division multiplexed (WDM) optical transmitter comprising a continuous wave (CW) laser, a semiconductor optical amplifier (SOA) positioned after the laser and an external modulator positioned after the SOA, the SOA gain being adjustable so as to provide control of the optical output power of the transmitter,

wherein a bias setting of the external modulator is capable of being varied so that the external modulator can operate in a manner which includes, at least, a normal transmission state, which is used during normal signal transmission, and a minimum transmission state, which aids in optical power attenuation of a laser transmission wavelength to reduce wavelength channel interference during periods of laser instability,

wherein the minimum transmission state is characterized with the use of a broad amplified spontaneous emission (ASE) spectrum provided by the SOA.